

CLAIMS

What is claimed is:

1. A computer-implemented method for servicing an aircraft, the method comprising the steps of:

providing a knowledge base of reusable solutions for the aircraft;

receiving an incoming message, where the incoming message characterizes a technical issue relating to the aircraft; and

generating an outgoing message in accordance with one or more of the reusable solutions in the knowledge base in response to the incoming message such that the outgoing message addresses the technical issue.

2. The method of claim 1 further including the steps of:

importing a first set of aircraft data from the incoming message into one or more search roles of an inquiry;

locating a relevant reusable solution in accordance with the inquiry; and

exporting data from one or more solution roles of the relevant reusable solution into a second set of aircraft data in the outgoing message.

3. The method of claim 2 further including the steps of:

searching the knowledge base in accordance with the inquiry;

determining that none of the reusable solutions addresses the technical issue;

verifying that an individual has authoring access to the knowledge base;

receiving authoring input from the individual; and
generating a new reusable solution based on the authoring input.

4. The method of claim 3 further including the steps of:

receiving security input from a service engineer of a manufacturer of the aircraft; and
granting authoring access to the service engineer.

5. The method of claim 3 further including the steps of:

receiving security input from a subject matter expert of the manufacturer of the aircraft; and
granting authoring access to the subject matter expert.

6. The method of claim 3 further including the steps of:

receiving security input from a field service representative of a manufacturer of the aircraft; and
denying authoring access to the field service representative.

7. The method of claim 3 further including the steps of:

receiving security input from an operator representative of an operator of the aircraft; and
denying authoring access to the operator representative.

8. The method of claim 3 further including the step of defining an approval status for the new reusable solution wherein the approval status enables access to the new reusable solution to be limited to a predefined group of individuals.

9. The method of claim 8 further including the step of limiting access to service engineers of a manufacturer of the aircraft.

10. The method of claim 8 further including the step of limiting access to subject matter experts of the manufacturer of the aircraft.

11. The method of claim 2 further including the step of importing a portion of the first set of aircraft data into a goal field of the inquiry such that the goal field defines a goal of the technical issue.

12. The method of claim 2 further including the step of importing a portion of the first set of aircraft data into a fact field of the inquiry such that the fact field defines a fact of the technical issue.

13. The method of claim 2 further including the step of importing a portion of the first set of aircraft data into a symptom field of the inquiry such that the symptom field defines a symptom of the technical issue.

14. The method of claim 2 further including the step of importing a portion of the first set of aircraft data into a change field of the inquiry such that the change field defines a change of the technical issue.

15. The method of claim 2 further including the step of exporting data from a cause field into the second set of aircraft data such that the second set of aircraft data defines a cause of the technical issue.

16. The method of claim 2 further including the step of exporting data from a fix field into the second set of aircraft data such that the second set of aircraft data defines a fix of the technical issue.

17. The method of claim 1 further including the step of maintaining the knowledge base for a plurality of aircraft.

18. The method of claim 17 further including the step of providing reusable solutions for more than two million parts of the plurality of aircraft.

19. A computer-implemented method for updating an aircraft-specific knowledge base, the method comprising the steps of:

determining whether any reusable solutions of the knowledge base addresses a technical issue regarding an aircraft;

verifying whether an individual has authoring access to the knowledge base;

receiving authoring input from the individual when none of the reusable solutions addresses the technical issue; and

generating a new reusable solution based on the authoring input when the individual has authoring access.

20. The method of claim 19 further including the steps of:

receiving security input from a service engineer of a manufacturer of the aircraft; and

granting authoring access to the service engineer.

21. The method of claim 19 further including the steps of:

receiving security input from a subject matter expert of the manufacturer of the aircraft; and

granting authoring access to the subject matter expert.

22. The method of claim 19 further including the steps of:
receiving security input from a field service representative of a
manufacturer of the aircraft; and
denying authoring access to the field service representative.

23. The method of claim 19 further including the steps of:
receiving security input from an operator representative of an operator of
the aircraft; and
denying authoring access to the operator representative.

24. The method of claim 19 further including the step of defining an
approval status for the new reusable solution wherein the approval status
enables access to the new reusable solution to be limited to a predefined group
of individuals.

25. The method of claim 24 further including the step of limiting access
to service engineers of a manufacturer of the aircraft.

26. The method of claim 24 further including the step of limiting access
to subject matter experts of the manufacturer of the aircraft.

27. A computer-implemented method for servicing an aircraft, the method comprising the steps of:

receiving an incoming message, where the incoming message characterizes a technical issue with the aircraft;

importing a first set of aircraft data from the incoming message into one or more search roles of an inquiry;

searching a knowledge base of reusable solutions for the aircraft in accordance with the inquiry;

determining whether any reusable solutions of the knowledge base addresses the technical issue;

verifying whether an individual has authoring access to the knowledge base;

receiving authoring input from the individual when none of the reusable solutions addresses the technical issue;

generating a new reusable solution based on the authoring input when the individual has authoring access; and

exporting data from one or more solution roles of the reusable solutions into a second set of aircraft data of an outgoing message.

28. The method of claim 27 further including the step of importing a portion of the first set of aircraft data into a goal field of the inquiry such that the goal field defines a goal of the technical issue.

29. The method of claim 27 further including the step of importing a portion of the first set of aircraft data into a fact field of the inquiry such that the fact field defines a fact of the technical issue.

30. The method of claim 27 further including the step of importing a portion of the first set of aircraft data into a symptom field of the inquiry such that the symptom field defines a symptom of the technical issue.

31. The method of claim 27 further including the step of importing a portion of the first set of aircraft data into a change field of the inquiry such that the change field defines a change of the technical issue.

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32. A computer-implemented aircraft servicing system comprising:

- a knowledge base of reusable solutions, wherein the knowledge base is derived from prior communications regarding an aircraft;
- a distributed tool for maintaining the knowledge base in accordance with characterizations of technical issues from individuals in an aircraft manufacturer enterprise; and
- a security model for selectively allocating read and write access to the knowledge base between the individuals in the manufacturer enterprise and individuals in an aircraft operator enterprise.

33. The servicing system of claim 32 wherein the distributed tool includes:

- an authoring module enabling storage of reusable solutions to the knowledge base, each reusable solution having an assigned access status; and
- a search module enabling retrieval of reusable solutions from the knowledge base in accordance with the access statuses;
- said authoring module preventing field service representatives of the manufacturer enterprise and representatives of the operator enterprise from generating reusable solutions.